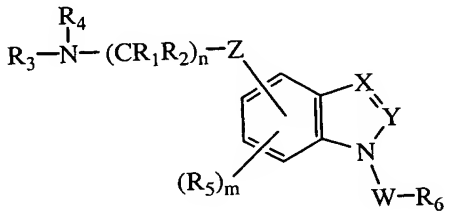
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A compound of formula I



(I)

wherein

W is SO_2, CO, CONH, CSNH or CH_2;

X is CR_7 or N;

Y is CR_8 ~~or N with the proviso that when X is N, then Y must be CR_8~~;

Z is O, SO_p or NR_9;

R_1 and R_2 are each independently H or C_1-C_6alkyl;

n is an integer of 2, 3 or 4;

R_3 and R_4 are each independently H, ~~$CNR_{10}NR_{11}R_{12}$~~, or a ~~C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl,~~ cycloheteroalkyl, ~~aryl~~ or heteroaryl group each optionally substituted with the proviso that only one of R_3 or R_4 may be H, or R_3 and R_4 may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring ~~optionally~~ containing an additional heteroatom selected from O, N or S;

R_5 is H, halogen, CN, OR_{13}, CO_2R_{14}, $CONR_{15}R_{16}$, $CNR_{17}NR_{18}R_{19}$, $SO_2NR_{20}R_{21}$, SO_qR_{22} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;

m is an integer of 1, 2 or 3;

p and q are each independently 0 or an integer of 1 or 2;

R_6 is an optionally substituted C_1-C_6alkyl, or aryl ~~or heteroaryl~~ group;

R_7 and R_8 are each independently H, halogen or a C_1-C_6 alkyl, aryl, heteroaryl or C_1-C_6alkoxy group each optionally substituted;

R_9 is H or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

R_{10}, R_{11}, R_{12}, R_{15}, R_{16}, R_{17}, R_{18} and R_{19} are each independently H or C_1-C_4alkyl;

R_{13} is H, COR_{23} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, aryl or heteroaryl group each optionally substituted;

R_{14} is H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted;

R_{20} and R_{21} are each independently H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted; and

R_{22} and R_{23} are each independently an optionally substituted C_1-C_6alkyl, aryl or heteroaryl group; or

a pharmaceutically acceptable salt thereof.

2. (Original) The compound according to claim 1 wherein W is SO_2.

3. (Original) The compound according to claim 1 wherein Z is O.

4. (Original) The compound according to claim 1 wherein n is 2.

5. (Currently Amended) The compound according to claim 1 wherein R_6 is an aryl ~~or heteroaryl~~ group ~~each~~ optionally substituted.

6. (Original) The compound according to claim 1 wherein X is CR_7 and R_5 and R_7 are H.

7. (Original) The compound according to claim 2 wherein R_1 and R_2 are H; Z is O; and n is 2.

8. (Original) The compound according to claim 6 wherein W is SO_2; Z is O; and R_3 and R_4 are taken together with the atom to which they are attached to form a 5- or 6-membered ring optionally containing one oxygen atom.

9. (Currently Amended) The compound according to claim 6 selected from the group consisting of:

~~2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethylamine;~~

4-(2-morpholin-4-ylethoxy)-1-(phenylsulfonyl)-1H-indole;

~~1-(phenylsulfonyl)-4-(2-piperidin-1-ylethoxy)-1H-indole;~~

N-(2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethyl)tetrahydro-2H-pyran-4-amine;

~~N,N-bis(3-methoxybenzyl)-2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethanamine;~~

~~N-(3-methoxybenzyl)-2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethanamine;~~

~~N,N-dimethyl-2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethanamine;~~

~~1-(phenylsulfonyl)-4-[2-(1-piperidinyl)ethoxy]-1*H*-indazole;~~

~~2-{[1-(phenylsulfonyl)-1*H*-indazol-4-yl]oxy}ethylamine;~~

~~N-(2-{[1-(phenylsulfonyl)-1*H*-indazol-4-yl]oxy}ethyl)tetrahydro-2*H*-pyran-4-amine;~~

~~N-(2-{[1-(phenylsulfonyl)-1*H*-indazol-4-yl]oxy}ethyl)tetrahydro-2*H*-thiopyran-4-amine;~~

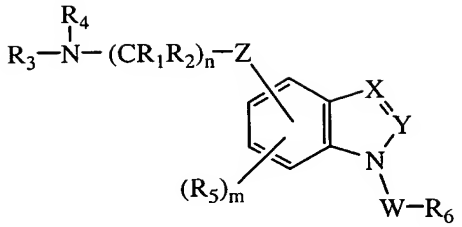
~~1-[(4-nitrophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-1*H*-indazole;~~

~~1-[(4-fluorophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-1*H*-indazole;~~

~~4-({4-[2-(1-piperidinyl)ethoxy]-1*H*-indazol-1-yl}sulfonyl)aniline;~~ and

a pharmaceutically acceptable salt thereof.

10. (Currently Amended) A method for the treatment of a disorder of the central nervous system related to or affected by the 5-HT6 receptor in a patient in need thereof which comprises providing to said patient a therapeutically effective amount of a compound of formula I.



(I)

wherein

W is SO_2, CO, CONH, CSNH or CH_2;

X is CR_7 or N;

Y is CR_8 ~~or N with the proviso that when X is N, then Y must be CR_8~~;

Z is O, SO_p or NR_9;

R_1 and R_2 are each independently H or C_1-C_6alkyl;

n is an integer of 2, 3 or 4;

R_3 and R_4 are each independently H, ~~$CNR_{10}NR_{11}R_{12}$~~, or a ~~C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl~~, cycloheteroalkyl, ~~aryl~~ or heteroaryl group each optionally substituted with the proviso that only one of R_3 or R_4 may be H, or R_3 and R_4 may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring ~~optionally~~ containing an additional heteroatom selected from O, N or S;

R_5 is H, halogen, CN, OR_{13}, CO_2R_{14}, $CONR_{15}R_{16}$, $CNR_{17}NR_{18}R_{19}$, $SO_2NR_{20}R_{21}$, SO_qR_{22} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;

m is an integer of 1, 2 or 3;

p and q are each independently 0 or an integer of 1 or 2;

R_6 is an optionally substituted C_1-C_6alkyl, or aryl ~~or heteroaryl~~ group;

R_7 and R_8 are each independently H, halogen or a C_1-C_6 alkyl, aryl, heteroaryl or C_1-C_6alkoxy group each optionally substituted;

R_9 is H or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

R_{10}, R_{11}, R_{12}, R_{15}, R_{16}, R_{17}, R_{18} and R_{19} are each independently H or C_1-C_4alkyl;

R_{13} is H, COR_{23} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, aryl or heteroaryl group each optionally substituted;

R_{14} is H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted;

R_{20} and R_{21} are each independently H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted; and

R_{22} and R_{23} are each independently an optionally substituted C_1-C_6alkyl, aryl or heteroaryl group; or

a pharmaceutically acceptable salt thereof.

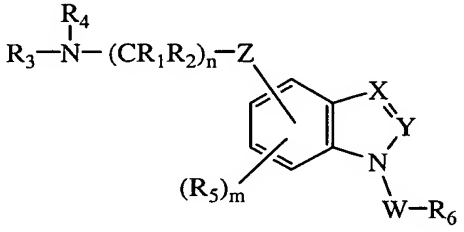
11. (Original) The method according to claim 10 wherein said disorder is a motor disorder, anxiety disorder or cognitive disorder.

12. (Original) The method according to claim 10 wherein said disorder is schizophrenia or depression.

13. (Original) The method according to claim 11 wherein said cognitive disorder is attention deficit disorder.

14. (Original) The method according to claim 11 wherein said cognitive disorder is Alzheimer's disease or Parkinson's disease.

15. (Currently Amended) A pharmaceutical composition which comprises a pharmaceutically acceptable carrier and an effective amount of a compound of formula I.



(I)

wherein

W is SO_2, CO, CONH, CSNH or CH_2;

X is CR_7 or N;

Y is CR_8 ~~or N with the proviso that when X is N, then Y must be CR_8~~;

Z is O, SO_p or NR_9;

R_1 and R_2 are each independently H or C_1-C_6alkyl;

n is an integer of 2, 3 or 4;

R_3 and R_4 are each independently H, ~~$CNR_{10}NR_{11}R_{12}$~~, or a ~~C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl~~, cycloheteroalkyl, ~~aryl~~ or heteroaryl group each optionally substituted with the proviso that only one of R_3 or R_4 may be H, or R_3 and R_4 may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring ~~optionally~~ containing an additional heteroatom selected from O, N or S;

R_5 is H, halogen, CN, OR_{13}, CO_2R_{14}, $CONR_{15}R_{16}$, $CNR_{17}NR_{18}R_{19}$, $SO_2NR_{20}R_{21}$, SO_qR_{22} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;

m is an integer of 1, 2 or 3;

p and q are each independently 0 or an integer of 1 or 2;

R_6 is an optionally substituted C_1-C_6alkyl, or aryl ~~or heteroaryl~~ group;

R_7 and R_8 are each independently H, halogen or a C_1-C_6 alkyl, aryl, heteroaryl or C_1-C_6alkoxy group each optionally substituted;

R_9 is H or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

R_{10}, R_{11}, R_{12}, R_{15}, R_{16}, R_{17}, R_{18} and R_{19} are each independently H or C_1-C_4alkyl;

R_{13} is H, COR_{23} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, aryl or heteroaryl group each optionally substituted;

R_{14} is H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted;

R_{20} and R_{21} are each independently H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted; and

R_{22} and R_{23} are each independently an optionally substituted C_1-C_6alkyl, aryl or heteroaryl group; or

a pharmaceutically acceptable salt thereof.

16. (Original) The composition according to claim 15 wherein W is SO_2; Z is O; and n is 2.

17. (Currently Amended) The composition according to claim 16 wherein R_6 is an aryl ~~or heteroaryl~~ group ~~each~~ optionally substituted.

18. (Original) The composition according to claim 17 wherein X is CR_7 and R_1, R_2, R_5, and R_7 are H.

19. (Currently Amended) The composition according to claim 18 having a formula I compound selected from the group consisting of:

~~2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethylamine;~~

4-(2-morpholin-4-ylethoxy)-1-(phenylsulfonyl)-1H-indole;

~~1-(phenylsulfonyl)-4-(2-piperidin-1-ylethoxy)-1H-indole;~~

N-(2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethyl)tetrahydro-2H-pyran-4-amine;

~~N,N-bis(3-methoxybenzyl)-2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethanamine;~~

~~N-(3-methoxybenzyl)-2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethanamine;~~

~~N,N-dimethyl-2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethanamine;~~

~~1-(phenylsulfonyl)-4-[2-(1-piperidinyl)ethoxy]-1*H*-indazole;~~

~~2-{[1-(phenylsulfonyl)-1*H*-indazol-4-yl]oxy}ethylamine;~~

~~N-(2-{[1-(phenylsulfonyl)-1*H*-indazol-4-yl]oxy}ethyl)tetrahydro-2*H*-pyran-4-amine;~~

~~N-(2-{[1-(phenylsulfonyl)-1*H*-indazol-4-yl]oxy}ethyl)tetrahydro-2*H*-thiopyran-4-amine;~~

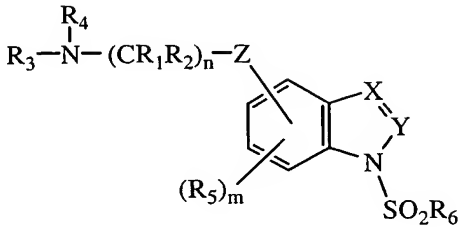
~~1-[(4-nitrophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-1*H*-indazole;~~

~~1-[(4-fluorophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-1*H*-indazole;~~

~~4-({4-[2-(1-piperidinyl)ethoxy]-1*H*-indazol-1-yl}sulfonyl)aniline;~~ and

a pharmaceutically acceptable salt thereof.

20. (Currently Amended) A method for the preparation of a compound of formula Ia



(Ia)

wherein

X is CR_7 or N;

Y is CR_8 ~~or N with the proviso that when X is N, then Y must be CR_8~~;

Z is O, SO_p or NR_9;

R_1 and R_2 are each independently H or C_1-C_6alkyl;

n is an integer of 2, 3 or 4;

R_3 and R_4 are each independently H, ~~$CNR_{10}NR_{11}R_{12}$~~, or a ~~C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl~~, cycloheteroalkyl, ~~aryl~~ or heteroaryl group each optionally substituted with the proviso that only one of R_3 or R_4 may be H, or R_3 and R_4 may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring ~~optionally~~ containing an additional heteroatom selected from O, N or S;

R_5 is H, halogen, CN, OR_{13}, CO_2R_{14}, $CONR_{15}R_{16}$, $CNR_{17}NR_{18}R_{19}$, $SO_2NR_{20}R_{21}$, SO_qR_{22} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;

m is an integer of 1, 2 or 3;

p and q are each independently 0 or an integer of 1 or 2;

R_6 is an optionally substituted C_1-C_6alkyl, or aryl ~~or heteroaryl~~ group;

R_7 and R_8 are each independently H, halogen or a C_1-C_6 alkyl, aryl, heteroaryl or C_1-C_6alkoxy group each optionally substituted;

R_9 is H or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl,

C_3-C_6cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

R_{10}, R_{11}, R_{12}, R_{15}, R_{16}, R_{17}, R_{18} and R_{19} are each independently H or C_1-C_4alkyl;

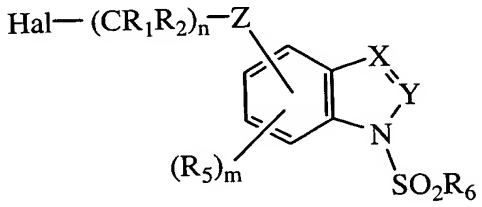
R_{13} is H, COR_{23} or a C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, aryl or heteroaryl group each optionally substituted;

R_{14} is H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted;

R_{20} and R_{21} are each independently H or a C_1-C_6alkyl, aryl or heteroaryl group each optionally substituted; and

R_{22} and R_{23} are each independently an optionally substituted C_1-C_6alkyl, aryl or heteroaryl group

which method comprises reacting a compound of formula V'



(V')

wherein Hal is Cl, Br or I and X, Y, Z, n, m, R_1, R_2, R_5 and R_6 are as defined hereinabove with an amine, HNR_3R_4, wherein R_3 and R_4 are defined hereinabove optionally in the presence of a solvent to give the desired compound of formula Ia.